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Wakimoto

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(54) ELECTRONIC APPARATUS AND METHOD FOR CONNECTING ELECTRONIC DEVICE

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(58) Field of Classification Search

See application file for complete search history.

(56)**References Cited**

U.S. PATENT DOCUMENTS

FOREIGN PATENT DOCUMENTS

JΡ	11-327683	11/1999
JΡ	4098399 B2	3/2008
IΡ	4098399 B2	6/2008

^{*} cited by examiner

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(57)ABSTRACT

Electronic devices which are selected by a user are coupled together through a coupler to provide a portable electronic apparatus. At least one of the electronic devices is provided with a pair of first connection terminal groups whose polarities are symmetric with respect to one rotation axis. The coupler is provided with a second connection terminal group. In addition, since the electronic device is detachable from the spindle through the coupler, the electronic device can be coupled to the coupler after the electronic device is reversed by the rotation about one rotation axis. A plurality of electronic devices can be connected to each other through the first connection terminal group and the second connection terminal group of the coupler.

14 Claims, 20 Drawing Sheets

